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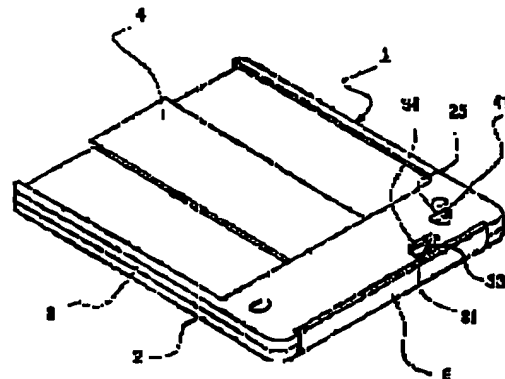
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(54) DISK CARTRIDGE

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a disk cartridge which can detect whether a disk type recording medium is extracted or not, and can surely prevent erroneous erasure when the disk type recording medium is extracted and thereafter it is accommodated again in the disk cartridge.

SOLUTION: An extraction identifying hole 25 formed on a disk cartridge is closed with a rid 41 which is supported to rotate toward the case 2 in the side A, when a cover 6 is opened, the rid 41 rotates to the position to cancel the closing of the extraction identifying hole 25 so that when the cover 6 is closed, the extraction identifying hole 25 is not closed. Moreover, an erroneous erasure preventing identifying hole 34 formed to a disk cartridge is closed with a second rid 31 supported movable by the cover 6. When the cover 6 is opened, the second rid 31 moves to the position to cancel the closing of the erroneous erasure preventing identifying hole 34. When the cover 6 is closed again, the erroneous erasure preventing identifying hole 34 is not closed.



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Page 2 of 2

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CLAIMS

[Claim(s)]

[Claim 1] the insertion for avoiding an interference with an optical head and a turntable -- with the Ath page side case of the couple in which the hole was formed, and a Bth page side case The disk-like record medium contained possible [rotation in the space formed inside the case of the above-mentioned couple], In the disk cartridge equipped with the opening-and-closing cover opened and closed when it is attached in the end face of the side in which the hole is not formed and it detaches [record medium / disk-like / above-mentioned] from the inside of the case of the above-mentioned couple an insertion of the case of the above-mentioned couple -- it was formed at least in one side of the case of the above-mentioned couple -- taking out -- identification -- with a hole the time of having the lock out member prepared in the above-mentioned opening-and-closing cover, and the above-mentioned opening-and-closing cover being closed -- the above-mentioned lock out member -- the above-mentioned ejection identification -- the disk cartridge characterized by considering as the configuration from which the above-mentioned synizesis member is removed when a hole is closed and the concerned opening-and-closing cover is opened

[Claim 2] In the disk cartridge equipped with the case, the above-mentioned disk-like record medium, and the above-mentioned opening-and-closing cover of the above-mentioned couple it was formed at least in one side of the case of the above-mentioned couple -- taking out -- identification -- with a hole A hole is closed. the time of having the lid prepared in one side of the case of the above-mentioned couple possible [rotation], and the concerned opening-and-closing cover being closed -- the above-mentioned lid -- the above-mentioned ejection identification -- the time of the above-mentioned lid rotating and the concerned opening-and-closing cover being again closed, when the concerned opening-and-closing cover is opened -- the above-mentioned ejection identification -- canceling synizesis of a hole and making the original position rotate this lid -- the above-mentioned ejection identification -- the disk cartridge characterized by constituting so that a hole can be closed again

[Claim 3] In the disk cartridge equipped with the case, the above-mentioned disk-like record medium, and the above-mentioned opening-and-closing cover of the above-mentioned couple the incorrect deletion prevention identification formed at least in one side of the case of the above-mentioned couple -- with a hole A hole is closed. the time of having the second lid prepared possible [a move on the above-mentioned opening-and-closing cover], and the concerned opening-and-closing cover being closed -- the second above-mentioned lid -- the above-mentioned incorrect deletion prevention identification -- Synizesis of a hole is canceled. the time of the second above-mentioned lid moving and the concerned opening-and-closing cover being again closed, when the concerned opening-and-closing cover is opened -- the above-mentioned incorrect deletion prevention identification -- moving this second lid to the original position -- the above-mentioned incorrect deletion prevention identification -- the disk cartridge characterized by constituting so that a hole can be closed again

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to the disk cartridge which can renew the contained disk-like record medium.

[0002]

[Description of the Prior Art] Drawing 20 for example, the plan and the drawing 21 as which the conventional disk cartridge marketed with a tradename called an Electronic Book was regarded from the orientation of an Ath page side case The plan and the drawing 22 showing a mode that the shutter of the disk cartridge of drawing 20 was opened The plan and the drawing 23 as which a mode that the shutter of the disk cartridge of drawing 20 was opened was regarded from the orientation of a Bth page side case The cross section and the drawing 24 as which the disk cartridge of drawing 20 was regarded from X-X-ray are a plan showing a mode that the disk-like record medium which opens the opening-and-closing cover of the disk cartridge of drawing 20, and was contained inside both cases is taken out.

[0003] the insertion to which 2a was prepared for 2 in the Ath page side case 2 in an Ath page side case and the drawing 21 in drawing 20 -- a hole -- the insertion to which a Bth page side case and 3a were prepared [2b / the end face of the Ath page side case 2, and 2c] for 3 in the Bth page side case 3 in the corner of the Ath page side case 2, and the drawing 22 -- the end face of the Bth page side case 3 and 3c of a hole and 3b are the corners of the Bth page side case 3 The disk cartridge which 1 consists of in the Ath page side case 2 and the Bth page side case 3, The shutter with which 4 was attached in the disk cartridge 1 possible [sliding], The disk-like record medium with which 5 was contained by the disk cartridge 1, and 5a The feed hole of a disk-like record medium, It is the space where the opening-and-closing cover with which 6 was attached in the end side of a disk cartridge 1 for 5b in the outermost periphery of a disk-like record medium and the drawing 23, and 6a were formed in the end face of the opening-and-closing cover 6, and 7 was formed inside both the cases 2 and 3. moreover, as shown in drawing 23, by the end faces 2b and 3b of the direction which does not have the shutter 4 of both the cases 2 and 3 attachment *****, the opening-and-closing cover 6 is inserted into both the cases 2 and 3, and is held Moreover, as shown in drawing 24, the opening-and-closing cover 6 sets corners 3c and 2c as a rotation center, and is supported by the disk cartridge 1 possible [rotation].

[0004] As shown in drawing 23, a disk cartridge 1 is constituted by assembling both the cases of the 2 or Bth page side case 3 of an Ath page side case face to face, and both the cases 2 and 3 are formed in a configuration which forms space 7 inside. the time of a shutter 4 being located in the center section of both the cases 2 and 3 as shown in drawing 20 -- an insertion of both the aforementioned cases 2 and 3 -- while holes 2a and 3a are plugged up simultaneously and moving to the other position, it is shown in drawings 21 and 22 -- as -- an insertion of both the aforementioned cases 2 and 3 -- holes 2a and 3a -- opening -- it maintains at the status the bottom

[0005] Moreover, as shown in drawing 23, among both sides, one [at least] field is a signal side,

and the disk-like record medium 5 is contained possible [rotation] by the space 7 inside both the cases 2 and 3. In addition, a signal side is an unrecordable field only for regeneration like the field which can record reproduce a signal, or an Electronic Book.

[0006] Next, an operation is explained. the guide to which the shutter 4 was formed in both the cases 2 and 3 when a record regenerative apparatus (not shown) was loaded with the conventional disk cartridge 1, as shown in drawing 21 -- meeting -- sliding -- an insertion -- it maintains at the status that holes 2a and 3a were opened And after feed-hole 5a of the disk-like record medium 5 fits into a turntable (not shown), it is clamped by the turntable according to the clamp device (not shown) of a record regenerative apparatus, and rotates united with a turntable, and the record reproducing head records an information on the signal side of the disk-like record medium 5, or the disk-like record medium 5 reproduces the information on a signal side.

[0007] Moreover, as shown in drawing 24, after the disk cartridge 1 taken out from the record regenerative apparatus cancels the lock device (what did not illustrate but used the so-called ***** setting device) of the opening-and-closing cover 6, it can make the corners 2c and 3c of both the cases 2 and 3 a center of rotation, can rotate the opening-and-closing cover 6 in the orientation of the arrow head, and can take out the disk-like record medium 5 which opens space 7 wide and was contained. If a reverse thing is completely performed, the taken-out disk-like record medium 5 can also be again contained to space 7.

[0008]

[Problem(s) to be Solved by the Invention] As mentioned above, there is no device in which it detects whether the conventional disk cartridge is once taken out from a disk cartridge in a disk-like record medium or it has taken out once [at least]. Since it does not know whether the disk-like record medium which it is going to use may be taken out from a disk cartridge, or there is nothing, in case an information is recorded on a disk-like record medium, it is necessary to discriminate whether it is the disk in which the record with the normal disk-like record medium 5 contained is possible. That is, possibility that a fraction unrecordable [with dirt, such as fat of the dust which adhered with static electricity, and the hand which adheres at the time of ejection,] on the signal side of the disk-like record medium taken out from the disk cartridge exists is high. For this reason, the format on the signal side of a disk-like record medium was read before the recording start, and it verified whether it was the recordable status, and the procedure of the so-called lead after light (RAW) of starting record after that was needed, and the problem that such time became long was in record.

[0009] Moreover, since there is no device in which it detects whether the conventional disk cartridge is once taken out from a disk cartridge in a disk-like record medium or it has taken out once [at least], even when the disk-like record medium which became abnormalities (record impossible status etc.) from the disk cartridge is taken out and it changes for normal disk-like record media (new disk-like record medium etc.), it cannot be judged that this disk-like record medium is normal. For this reason, before the recording start, the format on the signal side of a disk-like record medium was read, it verified whether it was the recordable status, and the procedure of starting record after that was needed, and in spite of having had the disk-like record medium judged to be normal, the problem that such time became long was in record.

[0010] Moreover, since the conventional disk cartridge does not have an incorrect deletion prevention device for preventing overwriting accidentally the required information recorded on the recording surface of a disk-like record medium, or eliminating, when a disk-like record medium was taken out from a disk cartridge and this disk-like record medium was again recontained to a disk cartridge, it had the problem that an incorrect deletion could not be prevented certainly.

[0011] It is what was made in order that this invention might solve the above troubles. the 1st purpose [whether the disk-like record medium contained by the disk cartridge is once taken out from a disk cartridge, and] When it detects whether it may be taken out once [at least] and it is not taken out once, it is obtaining the disk cartridge which verifies whether it being the recordable status and can shorten an informational chart lasting time by omitting the procedure of starting record after that.

[0012] Moreover, the disk-like record medium contained by the disk cartridge the 2nd purpose When it detects whether it is once taken out from a disk cartridge, or it may be taken out once [at least] and it is not taken out once It verifies whether it is the recordable status and an informational chart lasting time can be shortened by omitting the procedure of starting record after that. When a disk-like record medium is furthermore taken out from a disk cartridge and the disk-like record media (new disk-like record medium etc.) judged to be normal are used It is obtaining the disk cartridge which regards it as that from which a disk-like record medium's is not taken out once, and can shorten an informational chart lasting time.

[0013] Moreover, the 3rd purpose is obtaining the disk cartridge which can read this disk-like record medium, can regard it as exclusive use, and can prevent an incorrect deletion certainly, when the disk-like record medium once taken out from the disk cartridge is again recontained to a disk cartridge.

[0014]

[Means for Solving the Problem] In the disk cartridge concerning this invention at least one side of the case of the couple which constitutes a disk cartridge -- taking out -- identification, while a hole is formed A lock out member is prepared in the opening-and-closing cover opened and closed when detaching [record medium / disk-like / which was contained by this disk cartridge]. until the above-mentioned disk-like record medium is taken out -- the above-mentioned ejection identification -- a hole being closed by the above-mentioned lock out member, the above-mentioned lock out member being removed, when the above-mentioned opening-and-closing cover is opened, in order to take out the above-mentioned disk-like record medium, and, when the above-mentioned opening-and-closing cover is closed again the above-mentioned ejection identification -- a hole is made not to be blockaded

[0015] A hole is closed by the above-mentioned lid. moreover -- until it prepares the lid supported possible [rotation] in one side of the case of a couple and the above-mentioned disk-like record medium is taken out -- the above-mentioned ejection identification -- Synizesis of a hole is canceled. the time of the above-mentioned lid rotating and the concerned opening-and-closing cover being again closed, when the above-mentioned opening-and-closing cover is opened, in order to take out the above-mentioned disk-like record medium -- the above-mentioned ejection identification -- making the original position rotate this lid -- the above-mentioned ejection identification -- it enables it to close a hole again

[0016] moreover, at least one side of the case of the above-mentioned couple -- incorrect deletion prevention identification, while a hole is formed The second lid supported possible [a move on the opening-and-closing cover opened and closed when detaching / record medium / disk-like / which was contained by this disk cartridge] / is prepared. A hole is closed by the second above-mentioned lid. until the above-mentioned disk-like record medium is taken out -- the above-mentioned incorrect deletion prevention identification -- Synizesis of a hole is canceled. the time of the second above-mentioned lid moving and the concerned opening-and-closing cover being again closed, when the above-mentioned opening-and-closing cover is opened, in order to take out the above-mentioned disk-like record medium -- the above-mentioned incorrect deletion prevention identification -- moving this second lid to the original position -- the above-mentioned incorrect deletion prevention identification -- it enables it to close a hole again

[0017]

[Embodiments of the Invention] The disk-like record medium with which the disk cartridge which is the gestalt of implementation of this invention is contained by the disk cartridge omits the status which can be recorded when it detects whether it is once taken out from a disk cartridge, or it may be taken out once [at least] and it is not taken out once, or the procedure of verifying and starting record after that, and an informational chart lasting time can be shortened.

[0018] Moreover, when a disk-like record medium is taken out from a disk cartridge and the disk-like record media (new disk-like record medium etc.) judged to be normal are used, it is regarded as that

from which a disk-like record medium is not taken out once, and an informational chart lasting time can be shortened. Moreover, when the disk-like record medium once taken out from the disk cartridge is again recontained to a disk cartridge, this disk-like record medium can be read, it can be regarded as exclusive use, and an incorrect deletion can be prevented certainly.

[0019] Hereafter, this invention is concretely explained based on the drawing in which the gestalt of the operation is shown.

The gestalt 1 of implementation of this invention is explained with reference to drawing below gestalt 1. of operation. The plan showing the status that the perspective diagram of the disk cartridge of the gestalt 1 of this operation and the drawing 2 opened the important section perspective drawing of a disk cartridge, and drawing 1 opened the shutter of a disk cartridge, as for drawing 3, and the drawing 4 are plans in which the important section enlarged view of an opening-and-closing cover and the drawing 6 showing the important section cross section at the time of opening-and-closing cover opening, and, as for drawing 7, showing [the plan of an opening-and-closing cover, and] the ejection status of a disk-like record medium

[0020] in drawing 1, the Bth page side case which 2 is combined with an Ath page side case, and 3 is combined with this Ath page side case 2, and forms a disk cartridge 1, the shutter with which 4 was attached possible, the opening-and-closing cover which 6 was inserted into the aforementioned Ath page side case 2 and the Bth page side case 3, and was attached in the end face of the aforementioned disk cartridge 1, and 25 be prepared in the aforementioned Bth page side case 3 -- taking out -- identification --

[0021] As shown in drawing 2, the opening-and-closing cover 6 is supported by the rotation freedom by the supporting point 20 by the end at the disk cartridge 1. Moreover, the lock presser foot stitch tongue 21 is formed in the other end of the opening-and-closing cover 6, and it is constituted so that the opening-and-closing cover 6 may not be wide opened by the thing for which this lock presser foot stitch tongue 21 was formed inside the disk cartridge 1 and which hooks and engages with the section 22. Moreover, as shown in drawing 4, the synizesis member 23 is formed in the opening-and-closing cover 6. This synizesis member 23 is supported by the opening-and-closing cover 6 by the thin-walled part 24, as shown in drawing 5. as shown in drawing 2, when the opening-and-closing cover 6 was attached to the aforementioned disk cartridge 1, the aforementioned synizesis member 23 was formed in the Bth page side case 3 -- taking out -- identification -- it has fitted into a hole 25

[0022] Moreover, as shown in drawing 3, the disk-like record medium 5 is contained by the rotation freedom in the space formed when the aforementioned Ath page side case 2 and the Bth page side case 3 are put together.

[0023] Next, an operation is explained. the guide to which the shutter 4 was formed in the disk cartridge 1 when a record regenerative apparatus (not shown) was loaded with a disk cartridge 1, as shown in drawing 3 -- meeting -- sliding -- an insertion -- a hole -- it maintains at the status that 3a was opened And after feed-hole 5a of the disk-like record medium 5 fits into a turntable (not shown), it is clamped by the turntable according to the clamp device (not shown) of a record regenerative apparatus, and rotates united with a turntable, and the record reproducing head records an information on the signal side of the disk-like record medium 5, or the disk-like record medium 5 reproduces the information on a signal side.

[0024] Moreover, as shown in drawing 7, after the disk cartridge 1 taken out from the record regenerative apparatus cancels the lock presser foot stitch tongue 21 of the opening-and-closing cover 6, it can make the supporting point 20 a center of rotation, can rotate the opening-and-closing cover 6 in the orientation of arrow head A, and can take out the contained disk-like record medium 5. this time -- the synizesis member 23 of the opening-and-closing cover 6 -- taking out -- identification -- since it has fitted in with the hole 25 -- the synizesis member 23 -- taking out -- identification -- since the force is received from the side face of a hole 25, as shown in drawing 6, the fraction of a thin-walled part 24 is fractured it is shown in drawing 6 -- as -- ejection identification -- since the slant face is formed in the side face of a hole 25, and the side face of the synizesis member 23, the

synthesis member 23 separated from the opening-and-closing cover 6 is discharged by the exterior of a disk cartridge 1. This disk-like record medium 5 can be again contained to a disk cartridge 1 in a procedure contrary to the time of taking out.

[0025] since [however,] the synthesis member 23 is already separated from the opening-and-closing cover 6 even if it contains the disk-like record medium 5 to a disk cartridge 1 as before -- ejection identification -- it does not fit in with a hole 25 that is, once it took out the disk-like record medium 5 from the disk cartridge 1, the synthesis member 23 was removed and closed -- taking out -- identification -- a hole 25 is opened wide and closed with 2 times -- it divides and comes out

[0026] therefore, this ejection identification -- it is detectable that the disk-like record medium 5 was taken out from the disk cartridge 1 by detecting by the pilot switch with which the record regenerative apparatus was equipped [that the hole 25 is opened wide and] (not shown)

[0027] Gestalt 2. view 8 of operation. The perspective diagram of the disk cartridge of the gestalt 2 of implementation of this invention, In important section perspective drawing and the drawing 10, drawing 9 the enlarged view of a lid, and the drawing 11 The plan of a lid, The enlarged view of the second lid and the drawings 14, 15, and 16 of drawing 12 are plans in which the view of operation at the time of opening-and-closing cover opening and the drawings 17 and 18 showing the view of operation at the time of opening-and-closing cover synthesis, and, as for drawing 19, showing [the plan of an opening-and-closing cover, and / 13] the ejection status of a disk-like record medium.

[0028] From drawing 8, in drawing 19, since the lock device of the supporting point 20 of the 2 or Bth page side case 3 of the 1 or Ath page side case of a disk cartridge, the shutter 4, the disk-like record medium 5, the opening-and-closing cover 6, and the opening-and-closing cover 6 and the lock presser foot stitch tongue 21, and the jig section 22 is the same as the gestalt 1 of operation, the explanation is omitted. As shown in drawing 11, the lid 41 is supported possible [rotation in the orientation of arrow head B of drawing] inside the Ath page side case 2. Moreover, this lid 41 hooks on the supporting-point hole 43 established in the Ath page side case 2 as shown in drawing 10, while it is escaped, stopped and carried out by presser foot stitch tongues 41a and 41b, it hooks, and the rotation position is held with the frictional force of presser foot stitch tongues 41a and 41b and the side face of the supporting-point hole 43. 41z is a driver slot. this lid 41 was formed in the Bth page side case 3, when the Bth page side case 3 was combined with the Ath page side case 2, as shown in drawing 8 -- taking out -- identification -- it is constituted so that it may fit into a hole 25

[0029] As shown in drawing 12, the contact section 42 is formed in the end of the opening-and-closing cover 6. the lid 41 was formed in the Bth page side case 3 although this contact section 42 contacted the side face of the aforementioned lid 41 where the opening-and-closing cover 6 is attached in a disk cartridge 1, as shown in drawing 9 -- taking out -- identification -- there is nothing in the position which bars rotating along with a hole 25

[0030] Next, as shown in drawing 12, the slide slot 32 can be formed in the opening-and-closing cover 6, the second lid 31 can fit into this slide slot 32, and it can slide in the orientation of arrow head C of drawing. Moreover, this second lid 31 is hooked as shown in drawing 13, and while it is escaped, stopped and made the aforementioned slide slot 32 by presser foot stitch tongues 31a, 31b, and 31c, a slide position is held with the frictional force of these jigs presser foot stitch tongues 31a, 31b, and 31c and the side face of the aforementioned slide slot 32. the incorrect deletion prevention identification to which this second lid 31 was formed in the Bth page side case 3 when the Bth page side case 3 was combined with the Ath page side case 2 as shown in drawing 8 -- it is constituted so that it may fit into a hole 34

[0031] Next, an operation is explained. When a record regenerative apparatus (not shown) is loaded with a disk cartridge 1 like the gestalt 1 of the above-mentioned implementation, A shutter 4 slides along with the guide formed in the disk cartridge 1. an insertion, after it maintains at the status that the hole was opened and the feed hole of the disk-like record medium 5 fits into a turntable (not shown) It is clamped by the turntable according to the clamp device (not shown) of a record regenerative apparatus, and rotates united with a turntable, and the record reproducing head records

an information on the signal side of the disk-like record medium 5, or the disk-like record medium 5 reproduces the information on a signal side.

[0032] As shown in drawing 19, after the disk cartridge 1 taken out from the record regenerative apparatus cancels the lock presser foot stitch tongue 21 of the opening-and-closing cover 6, it can make the supporting point 20 a center of rotation, can rotate the opening-and-closing cover 6 in the orientation of arrow head A, and can take out the contained disk-like record medium 5. since the contact section 42 formed in the opening-and-closing cover 6 rotates at this time, contacting the side face of a lid 41 as shown in drawing 15 -- a lid 41 -- taking out -- identification -- it is rotated along with a hole 25 and will be in the status which shows in drawing 16 that is, ejection identification -- the fraction closed by the lid 41 of a hole 25 was opened wide. It can also contain again to a disk cartridge 1 in a procedure contrary to the time of taking out the disk-like record medium 5 from this status. however, as shown in drawing 17, even if it makes the opposite direction of arrow head A rotate the opening-and-closing cover 6 and it sets to a disk cartridge 1 again, the contact section 42 returns a lid 41 to the original position -- as -- since it does not contact, as shown in drawing 18, a lid 41 does not return to the original position therefore, this ejection identification -- that the disk-like record medium 5 was taken out from the disk cartridge 1 can detect by detecting the fraction in which the hole 25 was opened wide by the pilot switch with which the record regenerative apparatus was equipped (not shown)

[0033] here -- again -- ejection identification -- since driver slot 41z is prepared in the lid 41 as shown in drawing 10 when a hole 25 needs to be returned to the early status (status shown in drawing 14), it can return to the early status by inserting a minus driver etc. in this driver slot 41z, and rotating it

[0034] the incorrect deletion prevention identification to which the side face of the second lid 31 was prepared in the Bth page side case 3 when it was going to open the opening-and-closing cover 6 simultaneously in order to take out the disk-like record medium 5 as shown in drawing 15 -- the side face 33 of a hole 34 is contacted. If it continues rotating the opening-and-closing cover 6 as it is, the second lid 31 will be in the status which it is made to slide by the side face 33 and shows in drawing 16. that is, incorrect deletion prevention identification -- it will be in the status that the fraction closed by the second lid 31 of a hole 34 was opened wide as shown in drawing 17 from this status, even if it makes the orientation of arrow head A, and an opposite direction rotate the opening-and-closing cover 6 to the opposite direction of arrow head A and it sets to a disk cartridge 1 again, the side face 33 returns the second lid 31 to the original position -- as -- since it does not contact, as shown in drawing 18, the second lid 31 cannot return to the original position (status of drawing 14) therefore, this incorrect deletion prevention identification -- it can detect that the disk-like record medium 5 is taken out from a disk cartridge 1, this disk-like record medium 5 reads the fraction in which the hole 34 was opened wide, and it can be considered that it is exclusive use by detecting (not shown) by the pilot switch with which the record regenerative apparatus was equipped

[0035] here -- again -- incorrect deletion prevention identification -- when a hole 34 needs to be returned to the early status (status shown in drawing 14), it can be made to be able to slide until the second lid 31 contacts the side face 33 with a nib etc., and can return to the early status

[0036] the gestalt 2 of this operation -- ejection identification -- a hole and incorrect deletion prevention identification -- although the example of the disk cartridge equipped with both holes was shown, it is not necessary to necessarily have both and each can demonstrate an effect independently

[0037]

[Effect of the Invention] Since this invention is constituted as explained above, an effect which is shown below is acquired.

[0038] [whether the disk-like record medium contained by the disk cartridge is once taken out from a disk cartridge, and] or [that it may be taken out once / at least] -- ejection identification, since it is detectable by whether the hole is closed or not ejection identification -- since it is the case where a disk-like record medium is not taken out once when the hole is closed, the disk cartridge which verifies whether it is the recordable status, omits the procedure of starting record after that, and can

shorten an informational chart lasting time is obtained

[0039] moreover, the time of using the disk-like record media (new disk-like record medium etc.) judged to be normal, even when a disk-like record medium is taken out from a disk cartridge -- a lid - taking out -- identification -- it is rotating in the position which closes a hole, and the disk cartridge which verifies whether it is the recordable status, omits the procedure of starting record after that, and can shorten an informational chart lasting time is obtained

[0040] moreover -- if the disk-like record medium contained by the disk cartridge is once taken out from a disk cartridge -- the second lid -- moving -- incorrect deletion prevention identification -- since it is regarded only as for reading unless the second above-mentioned lid is returned to the original position when this disk-like record medium is again recontained to a disk cartridge since synizesis of a hole is canceled, the disk cartridge which can prevent an incorrect deletion certainly is obtained

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Technique

[Description of the Prior Art] Drawing 20 for example, the plan and the drawing 21 as which the conventional disk cartridge marketed with a tradename called an Electronic Book was regarded from the orientation of an Ath page side case The plan and the drawing 22 showing a mode that the shutter of the disk cartridge of drawing 20 was opened The plan and the drawing 23 as which a mode that the shutter of the disk cartridge of drawing 20 was opened was regarded from the orientation of a Bth page side case The cross section and the drawing 24 as which the disk cartridge of drawing 20 was regarded from X-X-ray are a plan showing a mode that the disk-like record medium which opens the opening-and-closing cover of the disk cartridge of drawing 20, and was contained inside both cases is taken out.

[0003] the insertion to which 2a was prepared for 2 in the Ath page side case 2 in an Ath page side case and the drawing 21 in drawing 20 -- a hole -- the insertion to which a Bth page side case and 3a were prepared [2b / the end face of the Ath page side case 2, and 2c] for 3 in the Bth page side case 3 in the corner of the Ath page side case 2, and the drawing 22 -- the end face of the Bth page side case 3 and 3c of a hole and 3b are the corners of the Bth page side case 3 The disk cartridge which 1 consists of in the Ath page side case 2 and the Bth page side case 3, The shutter with which 4 was attached in the disk cartridge 1 possible [sliding], The disk-like record medium with which 5 was contained by the disk cartridge 1, and 5a The feed hole of a disk-like record medium, It is the space where the opening-and-closing cover with which 6 was attached in the end side of a disk cartridge 1 for 5b in the outermost periphery of a disk-like record medium and the drawing 23, and 6a were formed in the end face of the opening-and-closing cover 6, and 7 was formed inside both the cases 2 and 3. moreover, as shown in drawing 23, by the end faces 2b and 3b of the direction which does not have the shutter 4 of both the cases 2 and 3 attachment *****, the opening-and-closing cover 6 is inserted into both the cases 2 and 3, and is held Moreover, as shown in drawing 24, the opening-and-closing cover 6 sets corners 3c and 2c as a rotation center, and is supported by the disk cartridge 1 possible [rotation].

[0004] As shown in drawing 23, a disk cartridge 1 is constituted by assembling both the cases of the 2 or Bth page side case 3 of an Ath page side case face to face, and both the cases 2 and 3 are formed in a configuration which forms space 7 inside. the time of a shutter 4 being located in the center section of both the cases 2 and 3 as shown in drawing 20 -- an insertion of both the aforementioned cases 2 and 3 -- while holes 2a and 3a are plugged up simultaneously and moving to the other position, it is shown in drawings 21 and 22 -- as -- an insertion of both the aforementioned cases 2 and 3 -- holes 2a and 3a -- opening -- it maintains at the status the bottom

[0005] Moreover, as shown in drawing 23, among both sides, one [at least] field is a signal side, and the disk-like record medium 5 is contained possible [rotation] by the space 7 inside both the cases 2 and 3. In addition, a signal side is an unrecordable field only for regeneration like the field which can record reproduce a signal, or an Electronic Book.

[0006] Next, an operation is explained. the guide to which the shutter 4 was formed in both the cases 2 and 3 when a record regenerative apparatus (not shown) was loaded with the conventional disk

cartridge 1, as shown in drawing 21 -- meeting -- sliding -- an insertion -- it maintains at the status that holes 2a and 3a were opened And after feed-hole 5a of the disk-like record medium 5 fits into a turntable (not shown), it is clamped by the turntable according to the clamp device (not shown) of a record regenerative apparatus, and rotates united with a turntable, and the record reproducing head records an information on the signal side of the disk-like record medium 5, or the disk-like record medium 5 reproduces the information on a signal side.

[0007] Moreover, as shown in drawing 24, after the disk cartridge 1 taken out from the record regenerative apparatus cancels the lock device (what did not illustrate but used the so-called ***** setting device) of the opening-and-closing cover 6, it can make the corners 2c and 3c of both the cases 2 and 3 a center of rotation, can rotate the opening-and-closing cover 6 in the orientation of the arrow head, and can take out the disk-like record medium 5 which opens space 7 wide and was contained. If a reverse thing is completely performed, the taken-out disk-like record medium 5 can also be again contained to space 7.

[Translation done.]

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Effect

[Effect of the Invention] Since this invention is constituted as explained above, an effect which is shown below is acquired.

[0038] [whether the disk-like record medium contained by the disk cartridge is once taken out from a disk cartridge, and] or [that it may be taken out once / at least] -- ejection identification, since it is detectable by whether the hole is closed or not ejection identification -- since it is the case where a disk-like record medium is not taken out once when the hole is closed, the disk cartridge which verifies whether it is the recordable status, omits the procedure of starting record after that, and can shorten an informational chart lasting time is obtained

[0039] moreover, the time of using the disk-like record media (new disk-like record medium etc.) judged to be normal, even when a disk-like record medium is taken out from a disk cartridge -- a lid - - taking out -- identification -- it is rotating in the position which closes a hole, and the disk cartridge which verifies whether it is the recordable status, omits the procedure of starting record after that, and can shorten an informational chart lasting time is obtained

[0040] moreover -- if the disk-like record medium contained by the disk cartridge is once taken out from a disk cartridge -- the second lid -- moving -- incorrect deletion prevention identification -- since it is regarded only as for reading unless the second above-mentioned lid is returned to the original position when this disk-like record medium is again recontained to a disk cartridge since synizesis of a hole is canceled, the disk cartridge which can prevent an incorrect deletion certainly is obtained

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] As mentioned above, there is no device in which it detects whether the conventional disk cartridge is once taken out from a disk cartridge in a disk-like record medium or it has taken out once [at least]. Since it does not know whether the disk-like record medium which it is going to use may be taken out from a disk cartridge, or there is nothing, in case an information is recorded on a disk-like record medium, it is necessary to discriminate whether it is the disk in which the record with the normal disk-like record medium 5 contained is possible. That is, possibility that a fraction unrecordable [with dirt, such as fat of the dust which adhered with static electricity, and the hand which adheres at the time of ejection,] on the signal side of the disk-like record medium taken out from the disk cartridge exists is high. For this reason, the format on the signal side of a disk-like record medium was read before the recording start, and it verified whether it was the recordable status, and the procedure of the so-called lead after light (RAW) of starting record after that was needed, and the problem that such time became long was in record.

[0009] Moreover, since there is no device in which it detects whether the conventional disk cartridge is once taken out from a disk cartridge in a disk-like record medium or it has taken out once [at least], even when the disk-like record medium which became abnormalities (record impossible status etc.) from the disk cartridge is taken out and it changes for normal disk-like record media (new disk-like record medium etc.), it cannot be judged that this disk-like record medium is normal. For this reason, before the recording start, the format on the signal side of a disk-like record medium was read, it verified whether it was the recordable status, and the procedure of starting record after that was needed, and in spite of having had the disk-like record medium judged to be normal, the problem that such time became long was in record.

[0010] Moreover, since the conventional disk cartridge does not have an incorrect deletion prevention device for preventing overwriting accidentally the required information recorded on the recording surface of a disk-like record medium, or eliminating, when a disk-like record medium was taken out from a disk cartridge and this disk-like record medium was again recontained to a disk cartridge, it had the problem that an incorrect deletion could not be prevented certainly.

[0011] It is what was made in order that this invention might solve the above troubles. the 1st purpose [whether the disk-like record medium contained by the disk cartridge is once taken out from a disk cartridge, and] When it detects whether it may be taken out once [at least] and it is not taken out once, it is obtaining the disk cartridge which verifies whether it being the recordable status and can shorten an informational chart lasting time by omitting the procedure of starting record after that.

[0012] Moreover, the disk-like record medium contained by the disk cartridge the 2nd purpose When it detects whether it is once taken out from a disk cartridge, or it may be taken out once [at least] and it is not taken out once It verifies whether it is the recordable status and an informational chart lasting time can be shortened by omitting the procedure of starting record after that. When a disk-like record medium is furthermore taken out from a disk cartridge and the disk-like record media (new disk-like record medium etc.) judged to be normal are used It is obtaining the disk cartridge which regards it as that from which a disk-like record medium's is not taken out once, and can shorten an informational

chart lasting time.

[0013] Moreover, the 3rd purpose is obtaining the disk cartridge which can read this disk-like record medium, can regard it as exclusive use, and can prevent an incorrect deletion certainly, when the disk-like record medium once taken out from the disk cartridge is again recontained to a disk cartridge.

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MEANS

[Means for Solving the Problem] In the disk cartridge concerning this invention at least one side of the case of the couple which constitutes a disk cartridge -- taking out -- identification, while a hole is formed A lock out member is prepared in the opening-and-closing cover opened and closed when detaching [record medium / disk-like / which was contained by this disk cartridge]. until the above-mentioned disk-like record medium is taken out -- the above-mentioned ejection identification -- a hole being closed by the above-mentioned lock out member, the above-mentioned lock out member being removed, when the above-mentioned opening-and-closing cover is opened, in order to take out the above-mentioned disk-like record medium, and, when the above-mentioned opening-and-closing cover is closed again the above-mentioned ejection identification -- a hole is made not to be blockaded

[0015] A hole is closed by the above-mentioned lid. moreover -- until it prepares the lid supported possible [rotation] in one side of the case of a couple and the above-mentioned disk-like record medium is taken out -- the above-mentioned ejection identification -- Synizesis of a hole is canceled. the time of the above-mentioned lid rotating and the concerned opening-and-closing cover being again closed, when the above-mentioned opening-and-closing cover is opened, in order to take out the above-mentioned disk-like record medium -- the above-mentioned ejection identification -- making the original position rotate this lid -- the above-mentioned ejection identification -- it enables it to close a hole again

[0016] moreover, at least one side of the case of the above-mentioned couple -- incorrect deletion prevention identification, while a hole is formed The second lid supported possible [a move on the opening-and-closing cover opened and closed when detaching / record medium / disk-like / which was contained by this disk cartridge] / is prepared. A hole is closed by the second above-mentioned lid. until the above-mentioned disk-like record medium is taken out -- the above-mentioned incorrect deletion prevention identification -- Synizesis of a hole is canceled. the time of the second above-mentioned lid moving and the concerned opening-and-closing cover being again closed, when the above-mentioned opening-and-closing cover is opened, in order to take out the above-mentioned disk-like record medium -- the above-mentioned incorrect deletion prevention identification -- moving this second lid to the original position -- the above-mentioned incorrect deletion prevention identification -- it enables it to close a hole again

[0017]

[Embodiments of the Invention] The disk-like record medium with which the disk cartridge which is the gestalt of implementation of this invention is contained by the disk cartridge omits the status which can be recorded when it detects whether it is once taken out from a disk cartridge, or it may be taken out once [at least] and it is not taken out once, or the procedure of verifying and starting record after that, and an informational chart lasting time can be shortened.

[0018] Moreover, when a disk-like record medium is taken out from a disk cartridge and the disk-like record media (new disk-like record medium etc.) judged to be normal are used, it is regarded as that from which a disk-like record medium is not taken out once, and an informational chart lasting time

can be shortened. Moreover, when the disk-like record medium once taken out from the disk cartridge is again recontained to a disk cartridge, this disk-like record medium can be read, it can be regarded as exclusive use, and an incorrect deletion can be prevented certainly.

[0019] Hereafter, this invention is concretely explained based on the drawing in which the gestalt of the operation is shown.

The gestalt 1 of implementation of this invention is explained with reference to drawing below gestalt 1. of operation. The plan showing the status that the perspective diagram of the disk cartridge of the gestalt 1 of this operation and the drawing 2 opened the important section perspective drawing of a disk cartridge, and drawing 1 opened the shutter of a disk cartridge, as for drawing 3, and the drawing 4 are plans in which the important section enlarged view of an opening-and-closing cover and the drawing 6 showing the important section cross section at the time of opening-and-closing cover opening, and, as for drawing 7, showing [the plan of an opening-and-closing cover, and] the ejection status of a disk-like record medium

[0020] in drawing 1, the Bth page side case which 2 is combined with an Ath page side case, and 3 is combined with this Ath page side case 2, and forms a disk cartridge 1, the shutter with which 4 was attached possible, the opening-and-closing cover which 6 was inserted into the aforementioned Ath page side case 2 and the Bth page side case 3, and was attached in the end face of the aforementioned disk cartridge 1, and 25 be prepared in the aforementioned Bth page side case 3 -- taking out -- identification --

[0021] As shown in drawing 2, the opening-and-closing cover 6 is supported by the rotation freedom by the supporting point 20 by the end at the disk cartridge 1. Moreover, the lock presser foot stitch tongue 21 is formed in the other end of the opening-and-closing cover 6, and it is constituted so that the opening-and-closing cover 6 may not be wide opened by the thing for which this lock presser foot stitch tongue 21 was formed inside the disk cartridge 1 and which hooks and engages with the section 22. Moreover, as shown in drawing 4, the synizesis member 23 is formed in the opening-and-closing cover 6. This synizesis member 23 is supported by the opening-and-closing cover 6 by the thin-walled part 24, as shown in drawing 5. as shown in drawing 2, when the opening-and-closing cover 6 was attached to the aforementioned disk cartridge 1, the aforementioned synizesis member 23 was formed in the Bth page side case 3 -- taking out -- identification -- it has fitted into a hole 25

[0022] Moreover, as shown in drawing 3, the disk-like record medium 5 is contained by the rotation freedom in the space formed when the aforementioned Ath page side case 2 and the Bth page side case 3 are put together.

[0023] Next, an operation is explained. the guide to which the shutter 4 was formed in the disk cartridge 1 when a record regenerative apparatus (not shown) was loaded with a disk cartridge 1, as shown in drawing 3 -- meeting -- sliding -- an insertion -- a hole -- it maintains at the status that 3a was opened And after feed-hole 5a of the disk-like record medium 5 fits into a turntable (not shown), it is clamped by the turntable according to the clamp device (not shown) of a record regenerative apparatus, and rotates united with a turntable, and the record reproducing head records an information on the signal side of the disk-like record medium 5, or the disk-like record medium 5 reproduces the information on a signal side.

[0024] Moreover, as shown in drawing 7, after the disk cartridge 1 taken out from the record regenerative apparatus cancels the lock presser foot stitch tongue 21 of the opening-and-closing cover 6, it can make the supporting point 20 a center of rotation, can rotate the opening-and-closing cover 6 in the orientation of arrow head A, and can take out the contained disk-like record medium 5. this time -- the synizesis member 23 of the opening-and-closing cover 6 -- taking out -- identification -- since it has fitted in with the hole 25 -- the synizesis member 23 -- taking out -- identification -- since the force is received from the side face of a hole 25, as shown in drawing 6, the fraction of a thin-walled part 24 is fractured it is shown in drawing 6 -- as -- ejection identification -- since the slant face is formed in the side face of a hole 25, and the side face of the synizesis member 23, the synizesis member 23 separated from the opening-and-closing cover 6 is discharged by the exterior of

a disk cartridge 1 This disk-like record medium 5 can be again contained to a disk cartridge 1 in a procedure contrary to the time of taking out.

[0025] since [however,] the synizesis member 23 is already separated from the opening-and-closing cover 6 even if it contains the disk-like record medium 5 to a disk cartridge 1 as before -- ejection identification -- it does not fit in with a hole 25 that is, once it took out the disk-like record medium 5 from the disk cartridge 1, the synizesis member 23 was removed and closed -- taking out -- identification -- a hole 25 is opened wide and closed with 2 times -- it divides and comes out

[0026] therefore, this ejection identification -- it is detectable that the disk-like record medium 5 was taken out from the disk cartridge 1 by detecting by the pilot switch with which the record regenerative apparatus was equipped [that the hole 25 is opened wide and] (not shown)

[0027] Gestalt 2. view 8 of operation The perspective diagram of the disk cartridge of the gestalt 2 of implementation of this invention, In important section perspective drawing and the drawing 10 , drawing 9 the enlarged view of a lid, and the drawing 11 The plan of a lid, The enlarged view of the second lid and the drawings 14 , 15, and 16 of drawing 12 are plans in which the view of operation at the time of opening-and-closing cover opening and the drawings 17 and 18 showing the view of operation at the time of opening-and-closing cover synizesis, and, as for drawing 19 , showing [the plan of an opening-and-closing cover, and / 13] the ejection status of a disk-like record medium.

[0028] From drawing 8 , in drawing 19 , since the lock device of the supporting point 20 of the 2 or Bth page side case 3 of the 1 or Ath page side case of a disk cartridge, the shutter 4, the disk-like record medium 5, the opening-and-closing cover 6, and the opening-and-closing cover 6 and the lock presser foot stitch tongue 21, and the jig section 22 is the same as the gestalt 1 of operation, the explanation is omitted. As shown in drawing 11 , the lid 41 is supported possible [rotation in the orientation of arrow head B of drawing] inside the Ath page side case 2. Moreover, this lid 41 hooks on the supporting-point hole 43 established in the Ath page side case 2 as shown in drawing 10 , while it is escaped, stopped and carried out by presser foot stitch tongues 41a and 41b, it hooks, and the rotation position is held with the frictional force of presser foot stitch tongues 41a and 41b and the side face of the supporting-point hole 43. 41z is a driver slot. this lid 41 was formed in the Bth page side case 3, when the Bth page side case 3 was combined with the Ath page side case 2, as shown in drawing 8 -- taking out -- identification -- it is constituted so that it may fit into a hole 25

[0029] As shown in drawing 12 , the contact section 42 is formed in the end of the opening-and-closing cover 6. the lid 41 was formed in the Bth page side case 3 although this contact section 42 contacted the side face of the aforementioned lid 41 where the opening-and-closing cover 6 is attached in a disk cartridge 1, as shown in drawing 9 -- taking out -- identification -- there is nothing in the position which bars rotating along with a hole 25

[0030] Next, as shown in drawing 12 , the slide slot 32 can be formed in the opening-and-closing cover 6, the second lid 31 can fit into this slide slot 32, and it can slide in the orientation of arrow head C of drawing. Moreover, this second lid 31 is hooked as shown in drawing 13 , and while it is escaped, stopped and made the aforementioned slide slot 32 by presser foot stitch tongues 31a, 31b, and 31c, a slide position is held with the frictional force of these jigs presser foot stitch tongues 31a, 31b, and 31c and the side face of the aforementioned slide slot 32. the incorrect deletion prevention identification to which this second lid 31 was formed in the Bth page side case 3 when the Bth page side case 3 was combined with the Ath page side case 2 as shown in drawing 8 -- it is constituted so that it may fit into a hole 34

[0031] Next, an operation is explained. When a record regenerative apparatus (not shown) is loaded with a disk cartridge 1 like the gestalt 1 of the above-mentioned implementation, A shutter 4 slides along with the guide formed in the disk cartridge 1. an insertion, after it maintains at the status that the hole was opened and the feed hole of the disk-like record medium 5 fits into a turntable (not shown) It is clamped by the turntable according to the clamp device (not shown) of a record regenerative apparatus, and rotates united with a turntable, and the record reproducing head records an information on the signal side of the disk-like record medium 5, or the disk-like record medium 5

reproduces the information on a signal side.

[0032] As shown in drawing 19, after the disk cartridge 1 taken out from the record regenerative apparatus cancels the lock presser foot stitch tongue 21 of the opening-and-closing cover 6, it can make the supporting point 20 a center of rotation, can rotate the opening-and-closing cover 6 in the orientation of arrow head A, and can take out the contained disk-like record medium 5. since the contact section 42 formed in the opening-and-closing cover 6 rotates at this time, contacting the side face of a lid 41 as shown in drawing 15 -- a lid 41 -- taking out -- identification -- it is rotated along with a hole 25 and will be in the status which shows in drawing 16 that is, ejection identification -- the fraction closed by the lid 41 of a hole 25 was opened wide. It can also contain again to a disk cartridge 1 in a procedure contrary to the time of taking out the disk-like record medium 5 from this status. however, as shown in drawing 17, even if it makes the opposite direction of arrow head A rotate the opening-and-closing cover 6 and it sets to a disk cartridge 1 again, the contact section 42 returns a lid 41 to the original position -- as -- since it does not contact, as shown in drawing 18, a lid 41 does not return to the original position therefore, this ejection identification -- that the disk-like record medium 5 was taken out from the disk cartridge 1 can detect by detecting the fraction in which the hole 25 was opened wide by the pilot switch with which the record regenerative apparatus was equipped (not shown)

[0033] here -- again -- ejection identification -- since driver slot 41z is prepared in the lid 41 as shown in drawing 10 when a hole 25 needs to be returned to the early status (status shown in drawing 14), it can return to the early status by inserting a minus driver etc. in this driver slot 41z, and rotating it

[0034] the incorrect deletion prevention identification to which the side face of the second lid 31 was prepared in the Bth page side case 3 when it was going to open the opening-and-closing cover 6 simultaneously in order to take out the disk-like record medium 5 as shown in drawing 15 -- the side face 33 of a hole 34 is contacted. If it continues rotating the opening-and-closing cover 6 as it is, the second lid 31 will be in the status which it is made to slide by the side face 33 and shows in drawing 16. that is, incorrect deletion prevention identification -- it will be in the status that the fraction closed by the second lid 31 of a hole 34 was opened wide as shown in drawing 17 from this status, even if it makes the orientation of arrow head A, and an opposite direction rotate the opening-and-closing cover 6 to the opposite direction of arrow head A and it sets to a disk cartridge 1 again, the side face 33 returns the second lid 31 to the original position -- as -- since it does not contact, as shown in drawing 18, the second lid 31 cannot return to the original position (status of drawing 14) therefore, this incorrect deletion prevention identification -- it can detect that the disk-like record medium 5 is taken out from a disk cartridge 1, this disk-like record medium 5 reads the fraction in which the hole 34 was opened wide, and it can be considered that it is exclusive use by detecting (not shown) by the pilot switch with which the record regenerative apparatus was equipped

[0035] here -- again -- incorrect deletion prevention identification -- when a hole 34 needs to be returned to the early status (status shown in drawing 14), it can be made to be able to slide until the second lid 31 contacts the side face 33 with a nib etc., and can return to the early status

[0036] the gestalt 2 of this operation -- ejection identification -- a hole and incorrect deletion prevention identification -- although the example of the disk cartridge equipped with both holes was shown, it is not necessary to necessarily have both and each can demonstrate an effect independently

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the perspective diagram of the disk cartridge of the gestalt 1 of implementation of this invention.

[Drawing 2] It is the important section perspective drawing of the disk cartridge of the gestalt 1 of operation.

[Drawing 3] It is the plan showing the status that the shutter of the disk cartridge of the gestalt 1 of operation was opened.

[Drawing 4] It is the plan of the opening-and-closing cover of the gestalt 1 of operation.

[Drawing 5] It is the important section enlarged view of the opening-and-closing cover of the gestalt 1 of operation.

[Drawing 6] It is an important section cross section at the time of opening-and-closing cover opening of the gestalt 1 of operation.

[Drawing 7] It is the plan showing the ejection status of the disk-like record medium of the gestalt 1 of operation.

[Drawing 8] It is the perspective diagram of the disk cartridge of the gestalt 2 of implementation of this invention.

[Drawing 9] It is the important section perspective drawing of the gestalt 2 of operation.

[Drawing 10] It is the enlarged view of the lid of the gestalt 2 of operation.

[Drawing 11] It is the plan of the lid of the gestalt 2 of operation.

[Drawing 12] It is the plan of the opening-and-closing cover of the gestalt 2 of operation.

[Drawing 13] It is the enlarged view of the second lid of the gestalt 2 of operation.

[Drawing 14] It is a view of operation at the time of opening-and-closing cover opening of the gestalt 2 of operation.

[Drawing 15] It is a view of operation at the time of opening-and-closing cover opening of the gestalt 2 of operation.

[Drawing 16] It is a view of operation at the time of opening-and-closing cover opening of the gestalt 2 of operation.

[Drawing 17] It is a view of operation at the time of opening-and-closing cover synizesis of the gestalt 2 of operation.

[Drawing 18] It is a view of operation at the time of opening-and-closing cover synizesis of the gestalt 2 of operation.

[Drawing 19] It is the plan showing the ejection status of the disk-like record medium of the gestalt 2 of operation.

[Drawing 20] It is the plan as which the conventional disk cartridge was regarded from the orientation of an Ath page side case.

[Drawing 21] It is the plan showing a mode that the shutter of the conventional disk cartridge of drawing 20 was opened.

[Drawing 22] It is the plan as which a mode that the shutter of the conventional disk cartridge of

drawing 20 was opened was regarded from the orientation of a Bth page side case.

[Drawing 23] It is the cross section as which the conventional disk cartridge of drawing 20 was regarded from X.

[Drawing 24] It is the plan showing a mode that the disk which opens the opening-and-closing cover of the conventional disk cartridge of drawing 20, and was contained inside both cases is taken out.

[Description of Notations]

1 a disk cartridge and 2 An Ath page side case and 3 A Bth page side case and 5 A disk-like record medium and 6 An opening-and-closing cover and 23 A synizesis member and 25 ejection identification -- a hole, the 31 second lid, and 34 incorrect deletion prevention identification -- a hole and 41 Lid.

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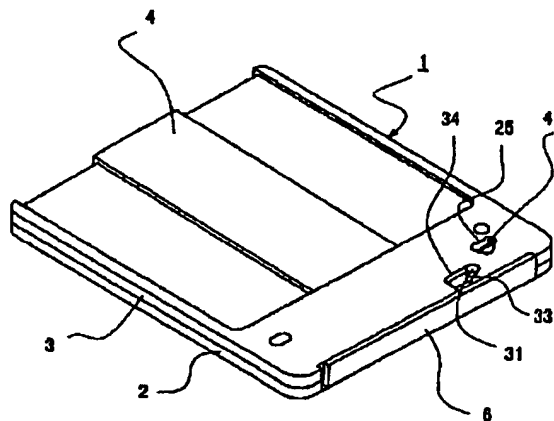
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(54) 【発明の名称】 ディスクカートリッジ

(57) 【要約】

【課題】 ディスク状記録媒体を取出したことがあるか否かを検出でき、また、ディスク状記録媒体を取り出したのち再びディスクカートリッジに収納し直したとき、確実に誤消去を防止できるディスクカートリッジを得る。

【解決手段】 ディスクカートリッジに形成された取り出し識別孔25をA面側ケース2に回動可能に支持されたリッド41で閉鎖し、開閉ふた6が開かれたときリッド41が取り出し識別孔25の閉鎖を解除する位置に回動し、再び開閉ふた6が閉じられたとき取り出し識別孔25を閉鎖しないようにした。また、ディスクカートリッジに形成された誤消去防止識別孔34を開閉ふた6に移動可能に支持された第二のリッド31で閉鎖し、開閉ふた6が開かれたとき第二のリッド31が誤消去防止識別孔34の閉鎖を解除する位置に移動し、再び開閉ふた6が閉じられたとき誤消去防止識別孔34を閉鎖しないようにした。



- | | |
|--------------|----------------|
| 1 ディスクカートリッジ | 25 取り出し識別孔 |
| 2 A面側ケース | 31 第二のリッド |
| 3 B面側ケース | 33 誤消去防止識別孔の側面 |
| 4 シャッター | 34 誤消去防止識別孔 |
| 6 開閉ふた | 41 リッド |

1

【特許請求の範囲】

【請求項1】 光ヘッドおよびターンテーブルとの干渉を避けるための挿入孔が形成された一对のA面側ケースおよびB面側ケースと、上記一对のケースの内側に形成された空間内に回転可能に収納されているディスク状記録媒体と、上記一对のケースの挿入孔が形成されていない側の端面に取付けられ、上記一对のケース内から上記ディスク状記録媒体を着脱するとき開閉する開閉ふたを備えたディスクカートリッジにおいて、上記一对のケースの少なくとも一方に形成された取り出し識別孔と、上記開閉ふたに設けられた閉塞部材を備え、上記開閉ふたが閉じられているときは上記閉塞部材で上記取り出し識別孔を閉鎖し、当該開閉ふたが開かれたときは上記閉塞部材が除去される構成としたことを特徴とするディスクカートリッジ。

【請求項2】 上記一对のケースと、上記ディスク状記録媒体と、上記開閉ふたを備えたディスクカートリッジにおいて、上記一对のケースの少なくとも一方に形成された取り出し識別孔と、上記一对のケースの一方に回転可能に設けられたリッドとを備え、当該開閉ふたが閉じられているときは上記リッドが上記取り出し識別孔を閉鎖し、当該開閉ふたが開かれたとき上記リッドが回転して再び当該開閉ふたが閉じられた時も上記取り出し識別孔の閉鎖を解除し、このリッドを元の位置に回転させることで上記取り出し識別孔を再び閉鎖できるように構成したことを特徴とするディスクカートリッジ。

【請求項3】 上記一对のケースと、上記ディスク状記録媒体と、上記開閉ふたを備えたディスクカートリッジにおいて、上記一对のケースの少なくとも一方に形成された誤消去防止識別孔と、上記開閉ふたに移動可能に設けられた第二のリッドとを備え、当該開閉ふたが閉じられているときは上記第二のリッドが上記誤消去防止識別孔を閉鎖し、当該開閉ふたが開かれたとき上記第二のリッドが移動して再び当該開閉ふたが閉じられた時も上記誤消去防止識別孔の閉鎖を解除し、この第二のリッドを元の位置に移動させることで上記誤消去防止識別孔を再び閉鎖できるように構成したことを特徴とするディスクカートリッジ。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】この発明は、収納したディスク状記録媒体が取り替え可能なディスクカートリッジに関するものである。

【0002】

【従来の技術】図20は、例えば電子ブックという商品名で市販されている従来のディスクカートリッジをA面側ケースの方向から見た平面図、図21は、図20のディスクカートリッジのシャッタを開いた様子を示す平面図、図22は、図20のディスクカートリッジのシャッタを開いた様子をB面側ケースの方向から見た平面図、

2

図23は、図20のディスクカートリッジをX-X線から見た断面図、図24は、図20のディスクカートリッジの開閉ふたを開いて、両ケースの内側に収納されたディスク状記録媒体を取出す様子を示す平面図である。

【0003】図20において2はA面側ケース、図21において2aはA面側ケース2に設けられた挿入孔、2bはA面側ケース2の端面、2cはA面側ケース2の角部、図22において3はB面側ケース、3aはB面側ケース3に設けられた挿入孔、3bはB面側ケース3の端面、3cはB面側ケース3の角部である。1はA面側ケース2とB面側ケース3によって形成されるディスクカートリッジ、4はディスクカートリッジ1に摺動可能に取り付けられたシャッタ、5はディスクカートリッジ1に収納されたディスク状記録媒体、5aはディスク状記録媒体の中心孔、5bはディスク状記録媒体の最外周部、図23において6はディスクカートリッジ1の一端面に取り付けられた開閉ふた、6aは開閉ふた6の端面、7は両ケース2、3の内側に形成された空間である。また図23に示すように開閉ふた6は両ケース2、3のシャッタ4が取付られていない方の端面2b、3bで両ケース2、3にはさまれて保持されている。また図24に示すように開閉ふた6は角部3c、2cを回転中心として回転可能にディスクカートリッジ1に支持されている。

【0004】図23に示すように、ディスクカートリッジ1は、A面側ケース2、B面側ケース3の両ケースを対向して組立てることによって形成され、両ケース2、3は内側に空間7を形成するような形状に形成されている。図20に示すように、シャッタ4は、両ケース2、3の中央部に位置するときは前記両ケース2、3の挿入孔2a、3aを同時に塞ぎ、それ以外の位置に移動しているときは、図21、22に示すように、前記両ケース2、3の挿入孔2a、3aを開放した状態に保つ。

【0005】また図23に示すように、ディスク状記録媒体5は両面のうち少なくとも一方の面が信号面で、両ケース2、3の内側の空間7に回転可能に収納されている。なお、信号面とは、信号を記録再生可能な面、あるいは電子ブックのように記録不可能な再生専用面のことである。

【0006】次に動作について説明する。図21に示すように、従来のディスクカートリッジ1は、記録再生装置（図示せず）に装填されるとき、シャッタ4が両ケース2、3に形成されたガイドに沿ってスライドし、挿入孔2a、3aを開いた状態に保つ。そして、ディスク状記録媒体5の中心孔5aが、ターンテーブル（図示せず）に嵌合した後、ディスク状記録媒体5はターンテーブルに記録再生装置のクランプ機構（図示せず）によってクランプされ、ターンテーブルと一体になって回転し、記録再生ヘッドがディスク状記録媒体5の信号面上に情報を記録し、または信号面上の情報を再生する。

【0007】また、記録再生装置から取り出されたディスクカートリッジ1は、図24に示すように、開閉ふた6のロック機構(図示せず、いわゆるバッチン止め機構を利用したもの)を解除した後、開閉ふた6を両ケース2、3の角部2c、3cを回転中心にして矢印方向に回転させ、空間7を開放して収納されたディスク状記録媒体5を取出すことができる。全く逆のことを行えば、取出したディスク状記録媒体5を再び空間7に収納することもできる。

【0008】

【発明が解決しようとする課題】上記のように、従来のディスクカートリッジは、ディスク状記録媒体をディスクカートリッジから、1度も取出されたことがないか、少なくとも1度は取出したことがあるかを検出する機構がない。使用しようとするディスク状記録媒体がディスクカートリッジから取り出されたことがあるか無いか分からないため、ディスク状記録媒体に情報を記録する際に、収納されているディスク状記録媒体5が正常な記録が可能なディスクであるか否かを識別する必要がある。つまり、ディスクカートリッジから取り出されたディスク状記録媒体の信号面には、静電気により付着した塵、取り出し時付着する手の脂等の汚れによって記録不可能な部分が存在する可能性が高い。このために、記録開始以前にディスク状記録媒体の信号面上のフォーマットを読み取って記録可能な状態か否かを検証してその後記録を開始するという、いわゆるリードアフターライト(RAW)の手順が必要となり、記録にかかる時間が長くなる、という問題があった。

【0009】また、従来のディスクカートリッジは、ディスク状記録媒体をディスクカートリッジから、1度も取出されたことがないか、少なくとも1度は取出したことがあるかを検出する機構がないために、ディスクカートリッジから異常(記録不可能状態等)となったディスク状記録媒体を取り出し、正常なディスク状記録媒体(新品のディスク状記録媒体等)と入れ替えた場合でも、このディスク状記録媒体が正常と判断することができない。このために、記録開始前にディスク状記録媒体の信号面上のフォーマットを読み取って記録可能な状態か否かを検証してその後記録を開始するという手順が必要となり、正常と判断されるディスク状記録媒体を備えているにも関わらず記録にかかる時間が長くなる、という問題があった。

【0010】また、従来のディスクカートリッジは、ディスク状記録媒体の記録面上に記録した必要な情報を誤って上書きしたり、消去してしまったりすることを防止するための誤消去防止機構がないため、ディスク状記録媒体をディスクカートリッジから取り出し、このディスク状記録媒体を再びディスクカートリッジに収納し直した場合に、確実に誤消去を防止できないという問題があった。

【0011】この発明は、上述のような問題点を解決するためになされたもので、第1の目的は、ディスクカートリッジに収納されているディスク状記録媒体が、ディスクカートリッジから1度も取出されたことがないか、少なくとも1度は取出されたことがあるかを検出し、1度も取出されたことがない場合には、記録可能な状態か否かを検証してその後記録を開始するという手順を省略することによって情報の記録時間を短縮できる、ディスクカートリッジを得ることである。

10 【0012】また、第2の目的は、ディスクカートリッジに収納されているディスク状記録媒体が、ディスクカートリッジから1度も取出されたことがないか、少なくとも1度は取出されたことがあるかを検出し、1度も取出されたことがない場合には、記録可能な状態か否かを検証してその後記録を開始するという手順を省略することによって情報の記録時間を短縮でき、さらにディスクカートリッジからディスク状記録媒体を取り出した場合でも、正常と判断されるディスク状記録媒体(新品のディスク状記録媒体等)を使用するときは、ディスク状記録媒体が1度も取出されたことがないものとみなして情報の記録時間を短縮できる、ディスクカートリッジを得ることである。

【0013】また、第3の目的は、ディスクカートリッジから1度取出されたディスク状記録媒体を再びディスクカートリッジに収納し直した場合、このディスク状記録媒体を読み取り専用とみなして確実に誤消去を防止することができる、ディスクカートリッジを得ることである。

【0014】

30 【課題を解決するための手段】この発明に係るディスクカートリッジにおいては、ディスクカートリッジを構成する一対のケースの少なくとも一方に取り出し識別孔を形成するとともに、このディスクカートリッジに収納されたディスク状記録媒体を着脱するとき開閉する開閉ふたに閉塞部材を設け、上記ディスク状記録媒体が取り出されるまでは上記取り出し識別孔を上記閉塞部材で閉鎖し、上記ディスク状記録媒体を取り出すために上記開閉ふたを開いたとき上記閉塞部材が除去され、再び上記開閉ふたを閉じたとき、上記取り出し識別孔が閉塞されないようにしたものである。

40 【0015】また、一対のケースの一方に回転可能に支持されたリッドを設け、上記ディスク状記録媒体が取り出されるまでは上記取り出し識別孔を上記リッドで閉鎖し、上記ディスク状記録媒体を取り出すために上記開閉ふたを開いたとき上記リッドが回転して再び当該開閉ふたが閉じられた時も上記取り出し識別孔の閉鎖を解除し、このリッドを元の位置に回転させることで上記取り出し識別孔を再び閉鎖できるようにしたものである。

50 【0016】また、上記一対のケースの少なくとも一方に誤消去防止識別孔を形成するとともに、このディスク

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カートリッジに収納されたディスク状記録媒体を着脱するとき開閉する開閉ふたに移動可能に支持された第二のリッドを設け、上記ディスク状記録媒体が取り出されるまでは上記誤消去防止識別孔を上記第二のリッドで閉鎖し、上記ディスク状記録媒体を取り出すために上記開閉ふたを開いたとき上記第二のリッドが移動して再び当該開閉ふたが閉じられた時も上記誤消去防止識別孔の閉鎖を解除し、この第二のリッドを元の位置に移動させることで上記誤消去防止識別孔を再び閉鎖できるようにしたものである。

【0017】

【発明の実施の形態】この発明の実施の形態であるディスクカートリッジは、ディスクカートリッジに収納されているディスク状記録媒体が、ディスクカートリッジから1度も取出されたことがないか、少なくとも1度は取出されたことがあるかを検出し、1度も取出されたことがない場合には、記録可能な状態を検証してその後記録を開始するという手順を省略して情報の記録時間を短縮できる。

【0018】また、ディスクカートリッジからディスク状記録媒体を取り出した場合でも、正常と判断されるディスク状記録媒体（新品のディスク状記録媒体等）を使用するときはディスク状記録媒体が1度も取出されたことがないものとみなして情報の記録時間を短縮できる。また、ディスクカートリッジから1度取出されたディスク状記録媒体を再びディスクカートリッジに収納し直した場合、このディスク状記録媒体を読み取り専用とみなして確実に誤消去を防止することができる。

【0019】以下、この発明をその実施の形態を示す図面に基いて具体的に説明する。

実施の形態1. 以下、この発明の実施の形態1について図を参照して説明する。図1は、この実施の形態1のディスクカートリッジの斜視図、図2はディスクカートリッジの要部透視図、図3はディスクカートリッジのシャッタを開いた状態を示す平面図、図4は開閉ふたの平面図、図5は開閉ふたの要部拡大図、図6は開閉ふた開放時の要部断面図、図7はディスク状記録媒体の取り出し状態を示す平面図である。

【0020】図1において、2はA面側ケース、3はこのA面側ケース2と組み合わされてディスクカートリッジ1を形成するB面側ケース、4はこのディスクカートリッジ1にスライド可能に取り付けられたシャッタ、6は前記A面側ケース2とB面側ケース3に挟まれて前記ディスクカートリッジ1の端面に取り付けられた開閉ふた、25は前記B面側ケース3に設けられた取り出し識別孔である。

【0021】図2に示すように、開閉ふた6は一端で支点20によってディスクカートリッジ1に回転自由に支持されている。また開閉ふた6の他端にはロック爪21が形成されており、このロック爪21がディスクカート

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リッジ1の内側に形成された引っ掛け部22と係合することによって開閉ふた6が開放されないように構成されている。また、図4に示すように開閉ふた6には閉鎖部材23が形成されている。この閉鎖部材23は図5に示すように薄肉部24によって開閉ふた6に支持されている。図2に示すように開閉ふた6が前記ディスクカートリッジ1に組み付けられたときには前記閉鎖部材23はB面側ケース3に形成された取り出し識別孔25に嵌合している。

10 【0022】また、図3に示すように、ディスク状記録媒体5は前記A面側ケース2とB面側ケース3が組み合わされたときに形成される空間に回転自由に収納されている。

【0023】次に、動作について説明する。図3に示すように、ディスクカートリッジ1は、記録再生装置（図示せず）に装填されるとき、シャッタ4がディスクカートリッジ1に形成されたガイドに沿ってスライドし、挿入孔3aを開いた状態に保つ。そして、ディスク状記録媒体5の中心孔5aが、ターンテーブル（図示せず）に嵌合した後、ディスク状記録媒体5はターンテーブルに記録再生装置のクランプ機構（図示せず）によってクランプされてターンテーブルと一体になって回転し、記録再生ヘッドがディスク状記録媒体5の信号面上に情報を記録し、または信号面上の情報を再生する。

【0024】また、記録再生装置から取り出されたディスクカートリッジ1は、図7に示すように、開閉ふた6のロック爪21を解除した後、開閉ふた6を支点20を回転中心にして矢印A方向に回転させ、収納されたディスク状記録媒体5を取り出すことができる。この時、開閉ふた6の閉鎖部材23は取り出し識別孔25と嵌合しているので、閉鎖部材23は取り出し識別孔25の側面から力を受けるので図6に示すように薄肉部24の部分が破断される。図6に示すように、取り出し識別孔25の側面および閉鎖部材23の側面には斜面が形成されているので開閉ふた6から切り離された閉鎖部材23はディスクカートリッジ1の外部に排出される。このディスク状記録媒体5は、取り出したときと逆の手順でディスクカートリッジ1に再び収納することができる。

【0025】しかしながら、ディスク状記録媒体5を元の通りにディスクカートリッジ1に収納しても、閉鎖部材23はすでに開閉ふた6からは切り離されているため、取り出し識別孔25と嵌合することはない。つまり、ディスク状記録媒体5を一度ディスクカートリッジ1から取り出すと閉鎖部材23が除去され、閉鎖されていた取り出し識別孔25は開放され、2度と閉鎖されることはないわけである。

【0026】よって、この取り出し識別孔25が開放されていることを記録再生装置に備えられた検出スイッチ等（図示せず）によって検出することで、ディスク状記録媒体5がディスクカートリッジ1から取り出されたこと

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とを検出できる訳である。

【0027】実施の形態2。図8は、この発明の実施の形態2のディスクカートリッジの斜視図、図9は要部透視図、図10はリッドの拡大図、図11はリッドの平面図、図12は開閉ふたの平面図、図13は第二のリッドの拡大図、図14、15、16は開閉ふた開放時の動作図、図17、18は開閉ふた閉鎖時の動作図、図19はディスク状記録媒体の取り出し状態を示す平面図である。

【0028】図8から図19において、ディスクカートリッジ1、A面側ケース2、B面側ケース3、シャック4、ディスク状記録媒体5、開閉ふた6と開閉ふた6の支点20、およびロック爪21、引っ掛け部22のロック機構は、実施の形態1と同様なのでその説明は省略する。図11に示すように、リッド41はA面側ケース2の内側に図の矢印B方向に回動可能に支持されている。また、このリッド41は図10に示すようにA面側ケース2に設けられた支点穴43に引っ掛け爪41a、41bによって抜け止めされるとともに引っ掛け爪41a、41bと支点穴43の側面との摩擦力によって回動位置が保持されている。41zはドライバ溝である。このリッド41は、図8に示すようにB面側ケース3がA面側ケース2と組み合わされるとときにはB面側ケース3に設けられた取り出し識別孔25に嵌まり込むように構成されている。

【0029】図12に示すように開閉ふた6の一端には当接部42が形成されている。この当接部42は、図9に示すように開閉ふた6がディスクカートリッジ1に取り付けられた状態では前記リッド41の側面に当接するが、リッド41がB面側ケース3に形成された取り出し識別孔25に沿って回動するのを妨げる位置にはない。

【0030】次に、図12に示すように開閉ふた6にはスライド溝32が形成され、このスライド溝32に第二のリッド31が嵌合し、図の矢印C方向に摺動可能である。また、この第二のリッド31は、図13に示すように引っ掛け爪31a、31b、31cによって前記スライド溝32に抜け止めされるとともに、これら引っ掛け爪31a、31b、31cと前記スライド溝32の側面との摩擦力によってスライド位置が保持される。図8に示すように、この第二のリッド31は、B面側ケース3がA面側ケース2と組み合わされるとときにはB面側ケース3に設けられた誤消去防止識別孔34に嵌まり込むように構成されている。

【0031】次に、動作について説明する。ディスクカートリッジ1は、上記実施の形態1と同様に記録再生装置(図示せず)に装填されるとき、シャック4がディスクカートリッジ1に形成されたガイドに沿ってスライドし、挿入孔を開いた状態に保ち、ディスク状記録媒体5の中心孔が、ターンテーブル(図示せず)に嵌合した後、ディスク状記録媒体5はターンテーブルに記録再生

装置のクランプ機構(図示せず)によってクランプされターンテーブルと一体となって回転し、記録再生ヘッドがディスク状記録媒体5の信号面上に情報を記録し、または信号面上の情報を再生する。

【0032】記録再生装置から取り出されたディスクカートリッジ1は、図19に示すように、開閉ふた6のロック爪21を解除した後、開閉ふた6を支点20を回転中心にして矢印A方向に回転させ、収納されたディスク状記録媒体5を取出すことができる。この時、図15に示すように開閉ふた6に形成された当接部42はリッド41の側面に当接しながら回動するので、リッド41は取り出し識別孔25に沿って回動させられ、図16に示す状態となる。つまり、取り出し識別孔25のリッド41によって閉鎖されていた部分が開放された訳である。この状態からディスク状記録媒体5を取り出したときと逆の手順でディスクカートリッジ1に再び収納することもできる。しかしながら図17に示したように、開閉ふた6を矢印Aの逆方向に回動させてディスクカートリッジ1に再びセットしても、当接部42はリッド41を元の位置に戻すようには当接しないので、図18に示すようにリッド41は元の位置に復帰しない。よって、この取り出し識別孔25の開放された部分を記録再生装置に備えられた検出スイッチ等(図示せず)によって検出することで、ディスク状記録媒体5がディスクカートリッジ1から取り出されたことが検出できる訳である。

【0033】ここで、再び取り出し識別孔25を初期の状態(図14に示す状態)にもどす必要が生じた場合は、図10に示すようにリッド41にはドライバ溝41zが設けられているのでこのドライバ溝41zにマイナスドライバー等を挿入して回動させることで初期の状態にもどすことができる。

【0034】同時に、図15に示すように、ディスク状記録媒体5を取り出すために開閉ふた6を開こうとすると、第二のリッド31の側面はB面側ケース3に設けられた誤消去防止識別孔34の側面33に当接する。このまま開閉ふた6を回動させ続けると、第二のリッド31は側面33によってスライドさせられて図16に示す状態となる。つまり、誤消去防止識別孔34の第二のリッド31によって閉鎖されていた部分が開放された状態となる。この状態から図17に示すように矢印A方向と逆方向に開閉ふた6を矢印Aの逆方向に回動させてディスクカートリッジ1に再びセットしても、側面33は第二のリッド31を元の位置に戻すようには当接しないので、図18に示すように第二のリッド31は元の位置(図14の状態)に復帰できない。よって、この誤消去防止識別孔34の開放された部分を記録再生装置に備えられた検出スイッチ等(図示せず)によって検出することで、ディスク状記録媒体5がディスクカートリッジ1から取り出されこのディスク状記録媒体5が読み取り専用とみなせることが検出できる訳である。

【0035】ここで、再び誤消去防止識別孔34を初期の状態(図14に示す状態)にもどす必要が生じた場合は、ペン先等で第二のリッド31が側面33に当接するまでスライドさせて初期の状態にもどすことができる。

【0036】この実施の形態2では、取り出し識別孔と誤消去防止識別孔の両方を備えたディスクカートリッジの例を示したが、必ずしも両方を備える必要はなくそれぞれが独立して効果を発揮することができる。

【0037】

【発明の効果】この発明は、以上説明したように構成されているので、以下に示すような効果が得られる。

【0038】ディスクカートリッジに収納されているディスク状記録媒体が、ディスクカートリッジから1度も取出されたことがないか、少なくとも1度は取出されたことがあるかを、取り出し識別孔が閉鎖されているか否かで検出できるので、取り出し識別孔が閉鎖されているときはディスク状記録媒体が1度も取出されたことがない場合であるので、記録可能な状態か否かを検証してその後記録を開始するという手順を省略して情報の記録時間を短縮できる、ディスクカートリッジが得られる。

【0039】また、ディスクカートリッジからディスク状記録媒体を取り出した場合でも、正常と判断されるディスク状記録媒体(新品のディスク状記録媒体等)を使用するときは、リッドを取り出し識別孔を閉鎖する位置に回転しておくことで、記録可能な状態か否かを検証してその後記録を開始するという手順を省略して情報の記録時間を短縮できる、ディスクカートリッジが得られる。

【0040】また、ディスクカートリッジに収納されているディスク状記録媒体が、ディスクカートリッジから1度取出されると、第二のリッドが移動して誤消去防止識別孔の閉鎖が解除されるので、このディスク状記録媒体を再びディスクカートリッジに収納し直した場合、上記第二のリッドを元の位置に戻さない限り読み取り専用とみなされるので、確実に誤消去を防止することができるディスクカートリッジが得られる。

【図面の簡単な説明】

【図1】 この発明の実施の形態1のディスクカートリッジの斜視図である。

【図2】 実施の形態1のディスクカートリッジの要部透視図である。

【図3】 実施の形態1のディスクカートリッジのシャッタを開いた状態を示す平面図である。

【図4】 実施の形態1の開閉ふたの平面図である。

【図5】 実施の形態1の開閉ふたの要部拡大図である。

【図6】 実施の形態1の開閉ふた開放時の要部断面図である。

【図7】 実施の形態1のディスク状記録媒体の取り出し状態を示す平面図である。

【図8】 この発明の実施の形態2のディスクカートリッジの斜視図である。

【図9】 実施の形態2の要部透視図である。

【図10】 実施の形態2のリッドの拡大図である。

【図11】 実施の形態2のリッドの平面図である。

【図12】 実施の形態2の開閉ふたの平面図である。

【図13】 実施の形態2の第二のリッドの拡大図である。

【図14】 実施の形態2の開閉ふた開放時の動作図である。

【図15】 実施の形態2の開閉ふた開放時の動作図である。

【図16】 実施の形態2の開閉ふた開放時の動作図である。

【図17】 実施の形態2の開閉ふた閉鎖時の動作図である。

【図18】 実施の形態2の開閉ふた閉鎖時の動作図である。

【図19】 実施の形態2のディスク状記録媒体の取り出し状態を示す平面図である。

【図20】 従来のディスクカートリッジをA面側ケースの方向から見た平面図である。

【図21】 図20の従来のディスクカートリッジのシャッタを開いた様子を示す平面図である。

【図22】 図20の従来のディスクカートリッジのシャッタを開いた様子をB面側ケースの方向から見た平面図である。

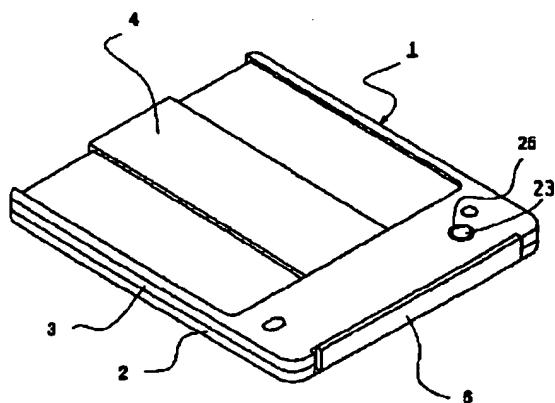
【図23】 図20の従来のディスクカートリッジをX方向から見た断面図である。

【図24】 図20の従来のディスクカートリッジの開閉ふたを開いて、両ケースの内側に収納されたディスクを取出す様子を示す平面図である。

【符号の説明】

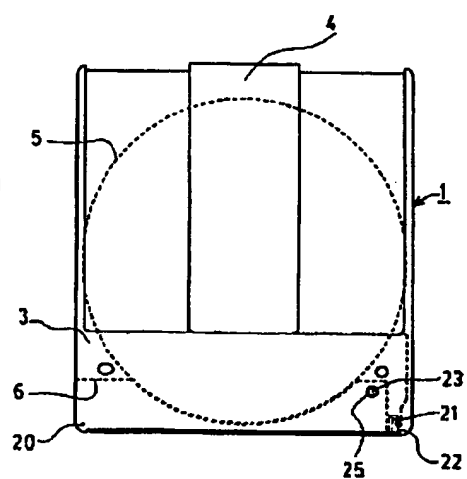
1 ディスクカートリッジ、2 A面側ケース、3 B面側ケース、5 ディスク状記録媒体、6 開閉ふた、23 閉鎖部材、25 取り出し識別孔、31 第二のリッド、34 誤消去防止識別孔、41 リッド。

【図1】



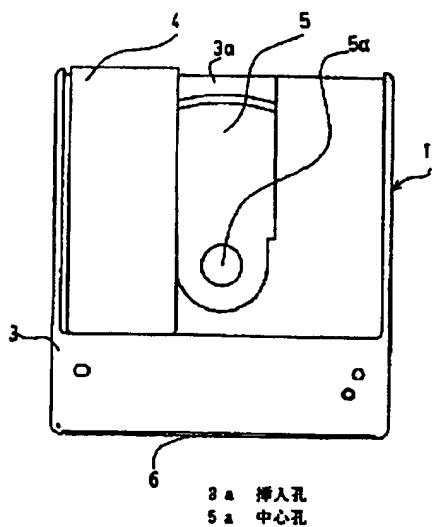
- | | |
|--------------|------------|
| 1 ディスクカートリッジ | 8 開閉ふた |
| 2 A面側ケース | 23 閉鎖部材 |
| 3 B面側ケース | 25 取り出し識別孔 |

【図2】



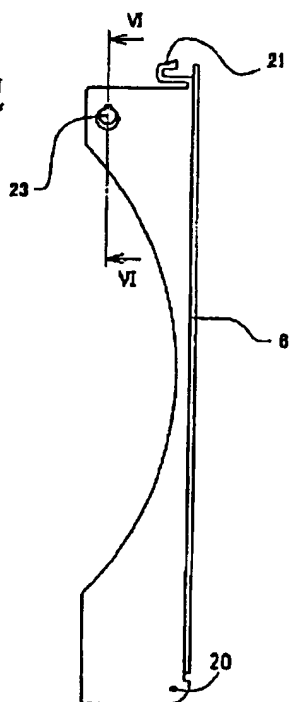
- | | |
|-------------|----------|
| 4 シャッター | 20 支点 |
| 5 ディスク状記録媒体 | 21 ロック爪 |
| | 22 ひっかけ部 |

【図3】

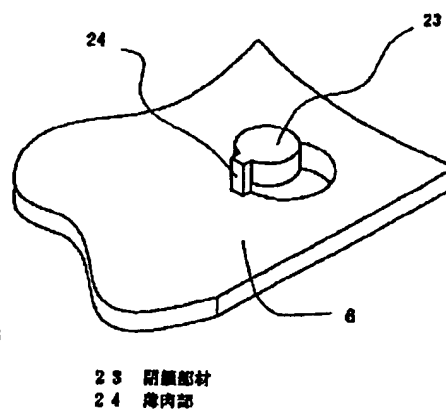


- | |
|---------|
| 3 a 挿入孔 |
| 5 a 中心孔 |

【図4】

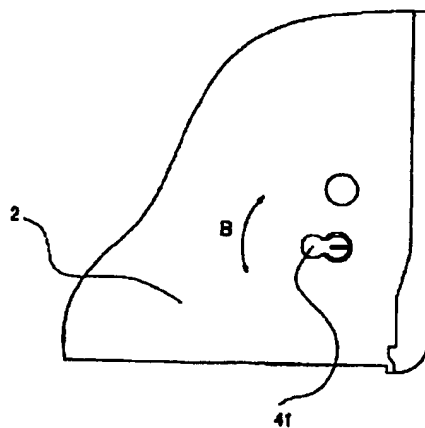


【図5】

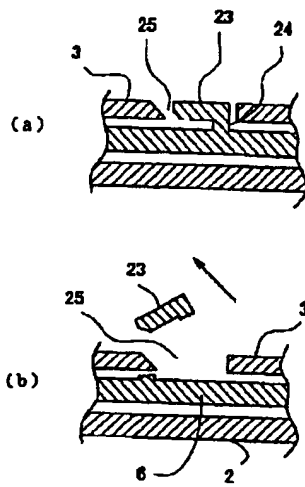


- | |
|---------|
| 23 閉鎖部材 |
| 24 湾肉部 |

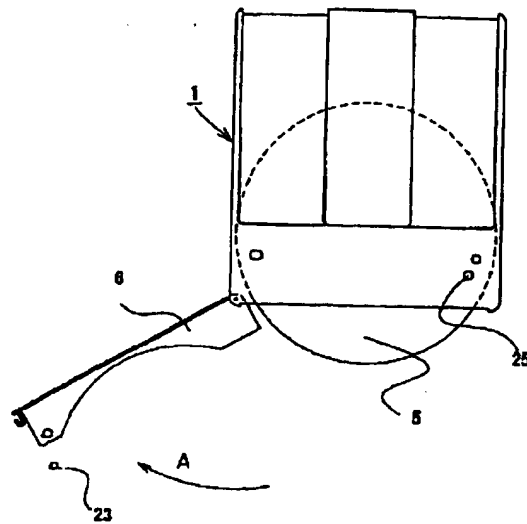
【図11】



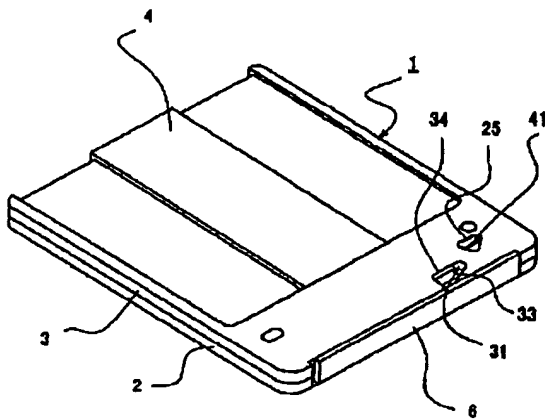
【図6】



【図7】

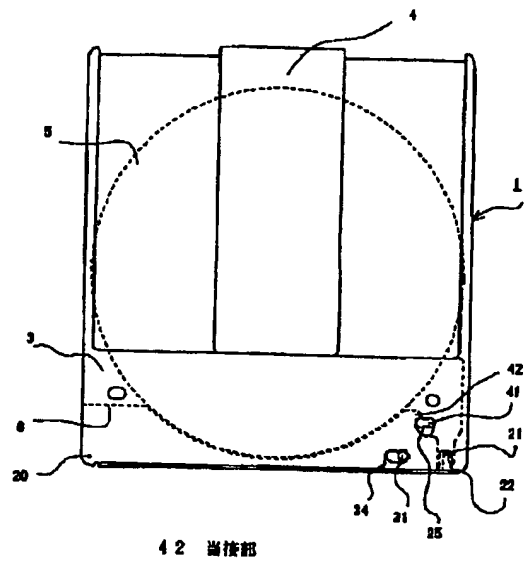


【図8】

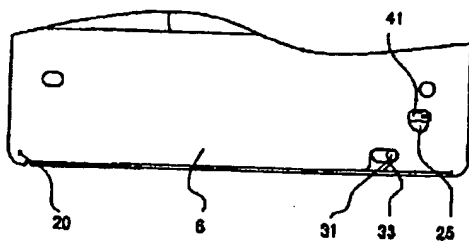


- | | |
|--------------|---------------|
| 1 ディスクカートリッジ | 25 取り出し識別孔 |
| 2 A面側ケース | 31 第二のリッド |
| 3 B面側ケース | 33 消去防止識別孔の側面 |
| 4 シャッター | 34 誤消去防止識別孔 |
| 6 開閉ふた | 41 リッド |

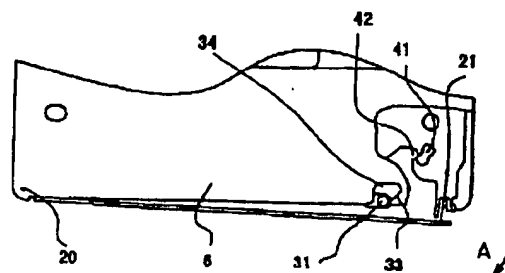
【図9】



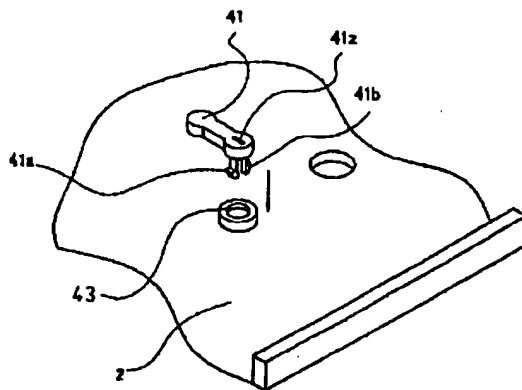
【図14】



【図15】

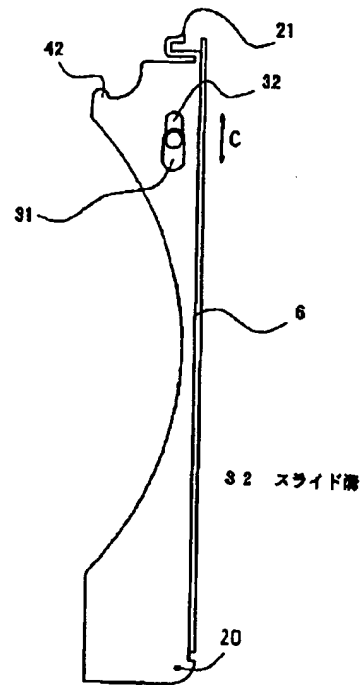


【図10】

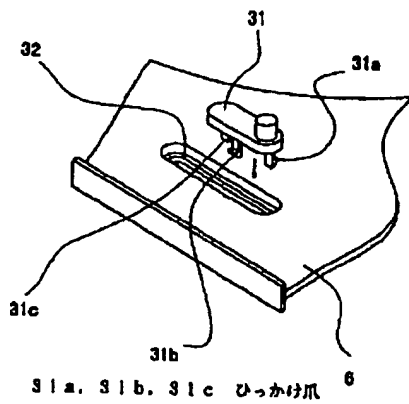


41 リッド
41a, 41b ひっかけ爪
41z ドライバ溝
48 支点穴

【図12】

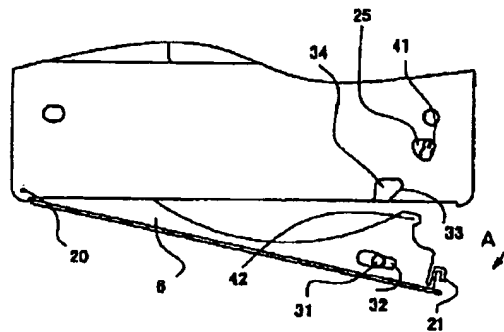


【図13】

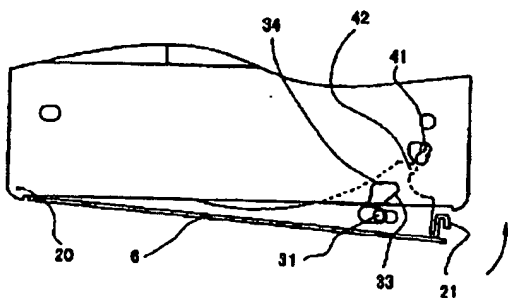


31a, 31b, 31c ひっかけ爪 6

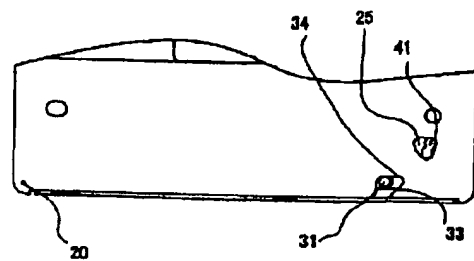
【図16】



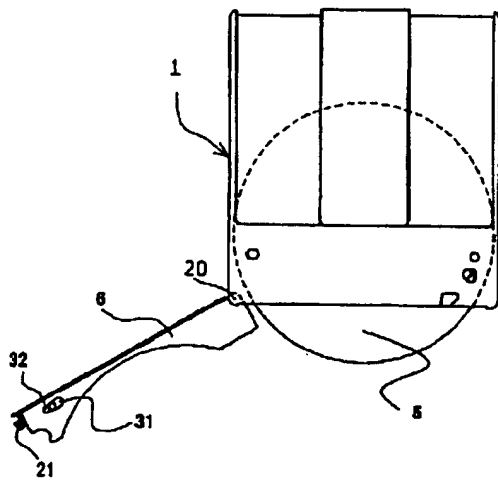
【図17】



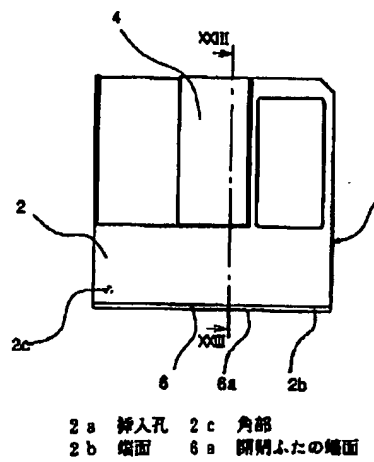
【図18】



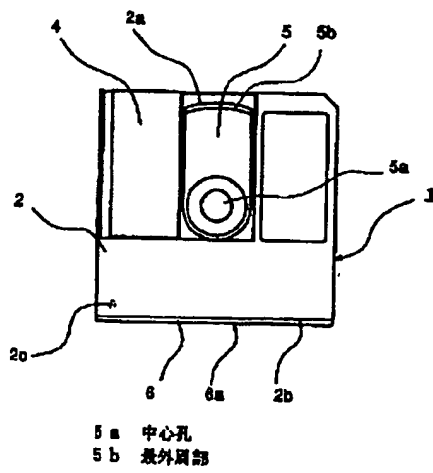
【図19】



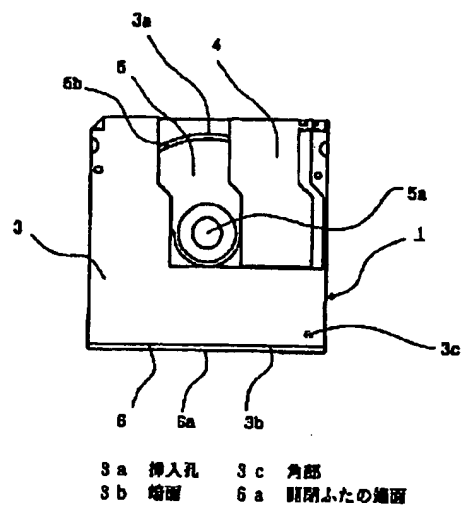
【図20】



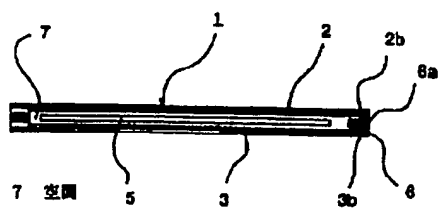
【図21】



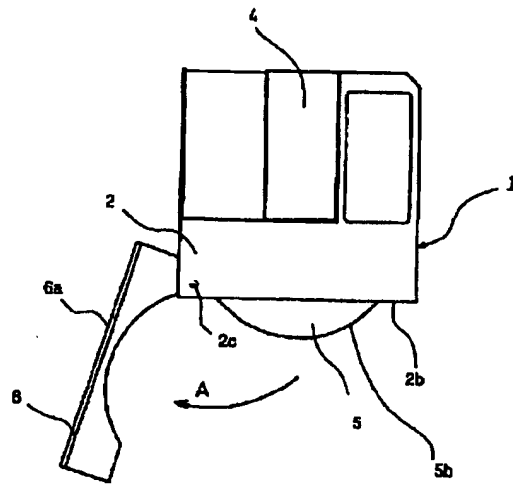
【図22】



【図23】



【図24】



フロントページの続き

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